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MALARIAL FEVER

IN A NEW-BORN

INFANT.

BY

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*MALARIAL FEVER IN A NEW-BORN
INFANT.*

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The statement is commonly made in text-books on diseases of children that malaria sometimes appears as a congenital disease. Examination of literature, however, shows a very small number of well authenticated cases of this character. The period of incubation of malaria is uncertain and probably depends to a certain degree upon the intensity of the infection. Attacks of intermittent fever which appear when the child is one or two weeks old, are certainly open to the suspicion of having been acquired in the ordinary manner by exposure. Many reported cases are of this character, and are too uncertain to be classed as positively congenital. Cases have been reported in which the foetus was be-



lieved to have had a chill in utero. Felkin (Edinburgh Med. Jour., June, 1889), reports a case in which, on palpitation of the abdomen, the foetus was felt shaking. The same symptoms occurred at the same hour on two following nights. On the fourth night the paroxysm was repeated and was soon followed by the birth of the child. There were seven paroxysms after birth, the cold, hot and dry stages being distinctly marked. The spleen was greatly enlarged, but the child was otherwise normal. The highest temperature noted was 102° . This case occurred in South Africa. It is possible that in that region a young infant might become so intensely infected with malaria as to suffer from a distinct shaking chill, but we should have expected a higher temperature. The physician whose experience is confined entirely to this latitude, necessarily looks with suspicion upon such symptoms, for he never sees shaking or shivering during the cold stage of malaria in an infant, and sees little reason to expect it in the foetus. It seems more probable that such phenomena are due to exaggeration of the normal foetal movements resulting from the ill-health of the mother. Physicians from the South in attendance at the Polyclinic have told me that they sometimes see chills in very young children similar in all respects to those seen in adults. They do not occur in New York.

While foetal malaria is certainly rare, there are a sufficient number of well-authenticated cases upon record to prove its possibility. Arn-

stein (*Medycyna*, Warsaw, 1891) and Duchek have reported such cases. Meigs and Pepper say that they (*Prag. Vierteljahresschrift*, 1858) have seen several cases where the symptoms and prompt effect of quinine left no doubt that the disease was contracted in utero. Bazin (*Gaz. de Hopitaux*, 1871, p. 286) also reports an undoubted case. The mother had suffered from malarial fever for several months but had received no treatment. The child was born during a paroxysm. It was not seen by the author until it was three weeks of age, but a history of malarial paroxysms dating from the first day was obtained. These paroxysms consisted of blueness and coldness of the surface, followed by feverishness. They occurred daily but at irregular hours. The spleen was enlarged when first seen. As this case was reported twenty years ago, no examination of the blood was made.

Grisolle (*Traité de Pathologie*, I., p. 157, 9th edition) affirms that in malarial regions foetal infection sometimes occurs but he does not give a detailed account of cases. Bazin, who had a large obstetric practice for four years, in a highly malarious region, believes that, while foetal infection may occur, it is extremely rare.

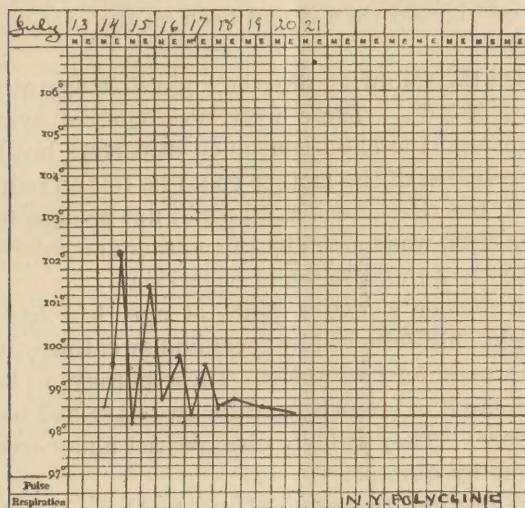
Malarial fevers marked by well-defined stages of chill, fever and sweating, are, without question, far less common in New York than they were fifteen years ago. The statement has been made that true cases of ague do not now develop in the city. This statement will be accepted

with reservation by physicians whose practice lies contiguous to Central Park. In portions of the city in which the ground is not yet entirely covered by buildings, true malarial fever sometimes appears as shown by the following cases:

On the evening of July 12, I was called to attend Mrs. G. whom I had not before seen. On my arrival I found that there had been a precipitated labor, the child being already born. Nothing abnormal was noticed in either mother or child. The mother told me that on July 4 she had had a slight malarial paroxysm, consisting of chill, fever and sweating. This had been repeated on each alternate day since, the paroxysms increasing in severity. On that morning the chill had lasted half an hour; the fever had been very high, and the sweating, which had begun just before the onset of the labor, was profuse. The chill had occurred at about 9 o'clock on each occasion. Quinine was administered in full doses and a slight paroxysm occurred at 10 o'clock on July 14, the highest temperature being $101.1-5^{\circ}$. There was again slight fever on July 16, but no malarial symptoms appeared after that date.

At my visit on the morning of July 13 the babe appeared perfectly well, but at 5 o'clock on the afternoon of that day he was heard to cry in a peculiar, feeble, wailing manner. When taken up the hands and feet were found to be cold, the nails blue and the face pinched and blue. This condition disappeared after fifteen minutes and feverishness took its place.

On the following morning the temperature was



normal and the child was apparently well. At 1:30 p. m., the child was restless and fretful. The temperature was $99\ 3.5^{\circ}$, but the appearance of coldness was not quite as marked as on the previous day. At 5 p. m., the temperature was $102\ 1.5^{\circ}$. There were no symptoms referable to lungs, throat, or bowels and no vomiting. The fever passed away during the evening, and the child passed a comfortable night.

On the following morning, July 15, the temperature was $98\ 1.5^{\circ}$, and at 1 p. m. $101\ 2.5^{\circ}$, there being no abnormal symptoms except restlessness and fretfulness.

On the morning of July 16, the temperature was $98\ 3.5^{\circ}$; at 4 p. m. it was $99\ 4.5^{\circ}$. The ap-

pearance of blueness and coldness was slightly more marked than it had been on the preceding day.

On the following day the highest temperature was 99.35° . There were no abnormal symptoms and the child continued in perfect health. The spleen of the mother could be felt on palpation, but that of the child could not be detected. The child was nursed by the mother and received directly quinine doses of one grain.

An older sister, 7 years of age, had had a slight chill followed by fever and sweating every afternoon for two weeks. These paroxysms had increased in intensity and for two days had been severe. They quickly disappeared under treatment by quinine.

A brother, two years of age, had been feverish for several afternoons. On the afternoon of July 14 the temperature reached 102° . Full doses of quinine were administered and the fever did not return.

The family resided in West Ninety-eighth street. At the east of the house was a vacant lot in which there was a pool of stagnant water of considerable size. They removed from this house soon after the recovery of the mother, and no future malarial paroxysms occurred in any member of the family. The diagnosis of malaria was confirmed by the microscope. Specimens of blood were taken from the finger of both mother and child at 10:30 a. m. on July 14, but the layers on the sides were found to be too thick for successful examination. On the fol-

lowing day other specimens were taken which were examined by Dr. W. B. James and the plasmodium malariae was found to be present.

In this case the presence of malaria was undoubted in four members of the family, and the origin of the disease in the infant also seems very certain. The first paroxysm appeared eighteen hours after birth, a time far too short for the disease to have been contracted by exposure. The infant was, moreover, in a room not looking toward the east and removed to a considerable distance from any possible source of infection through imperfect plumbing.

Failure to detect enlargement of the spleen seems to be the only element lacking for a perfect diagnosis. This, however, is apparent rather than real, for in young infants the spleen can only be detected when of extraordinary size. The fever intermitted completely—which is not always the case in young infants, in whom the intermissions are prone to be incomplete. The hour of the paroxysm varied somewhat but was always confined to the afternoon. Although the temperature did not reach as high a point on the 16th as on the 15th, the subjective symptoms were more marked. The paroxysms uninfluenced by treatment would undoubtedly have been more decided upon the 14th and 16th, the days upon which the mother's paroxysms would have occurred.

